

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 07-029732

(43)Date of publication of application : 31.01.1995

(51)Int.Cl.

H01F 10/08

H02M 3/24

(21)Application number : 05-169898

(71)Applicant : FUJI ELECTRIC CO LTD

(22)Date of filing : 09.07.1993

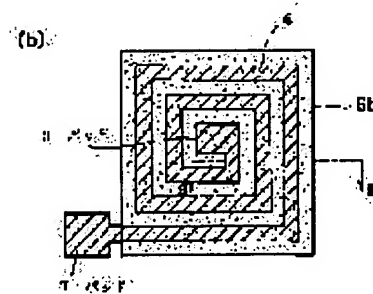
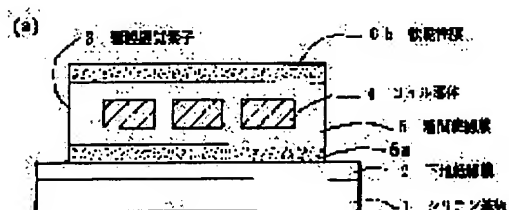
(72)Inventor : SAITO AKIRA

(54) THIN FILM MAGNETIC ELEMENT

(57)Abstract:

PURPOSE: To improve the Q-value of a thin film magnetic element without being accompanied difficulty in the manufacture of the element by a method wherein the film thickness of a magnetic layer is specified and at the same time, the film thickness of a conductive metal layer and the frequency of a signal to be applied are specified.

CONSTITUTION: A silicon oxide film is formed on a silicon substrate 1 by a thermal oxidation and thereafter, a silicon nitride film is formed on the silicon oxide film by sputtering and a two-layer base insulating film 2 is formed. A soft magnetic layer 6a of a film thickness of 3 to 5 μ m is formed on the film 2 by sputtering. Then, a polyimide film is spin coated on the layer 6a, is calcined to form a lower layer insulating film 5 on the layer 6a and thereafter, an aluminium film or a copper film of a film thickness equal to a film thickness, which is 10 to 20 times thicker than that of the layer 6a, is formed on this film 5 and the frequency of a signal to be applied is set in 0.1 to 5 MHz. Moreover, a patterning is executed to form a coil conductor 4, a polyimide film is spin coated to cover the conductor 4, a flat layer insulating film 5 is formed, subsequently, a soft magnetic layer 6b of a film thickness of 3 to 5 μ m is formed by sputtering.



LEGAL STATUS

[Date of request for examination] 19.08.1998

[Date of sending the examiner's decision of rejection] 21.03.2001

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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